In the Claims:

Please amend the claims as follows:

1. (Currently amended) An assay for detecting, measuring or monitoring the activity or concentration of a protein in a test sample, wherein the protein belongs to a plurality of proteins and the plurality of proteins have similar or overlapping properties towards a plurality of substrates, comprising

adding the plurality of substrates to a plurality of aliquots of the test sample;

measuring reaction rates between the protein and each substrate;

determining the activity or the concentration of the protein ~~in the test sample with~~ using a sensitivity coefficient ~~of~~ for each ~~of~~ substrate and for ~~the~~ each protein, wherein the sensitivity coefficient was determined from a sensitivity coefficient sample by

obtaining a plurality of inhibited dilutions of the sensitivity coefficient sample, wherein the plurality of inhibited dilutions comprise a plurality of concentrations of the protein which are partially to completely inhibited;

exposing each inhibited dilution of the plurality of inhibited dilutions to each substrate;

measuring the reaction rates between each uninhibited protein in each inhibited dilution and each substrate;

calculating the linear relationships between the reaction rates of each uninhibited protein and each concentration of the sensitivity coefficient sample at infinite inhibitor concentration; and

extracting each sensitivity coefficient of each substrate for each protein from the calculated linear relationships.

2. (Canceled).

3. (Currently amended) The assay of claim 1, wherein the sensitivity coefficients are obtained from the slopes of the linear relationships

~~each sensitivity coefficient is determined from a sensitivity coefficient sample by~~

~~obtaining a plurality of inhibited dilutions of the sensitivity coefficient sample, wherein the plurality of inhibited dilutions comprise a plurality of concentrations of the protein which are partially to completely inhibited;~~

~~exposing each inhibited dilution of the plurality of inhibited dilutions to each substrate;~~

~~measuring the reaction rates between each uninhibited protein in each inhibited dilution and each substrate;~~

~~calculating the relationships between the reaction rates of each uninhibited protein and each concentration of the sensitivity coefficient sample at infinite inhibitor concentration; and~~

~~extracting each sensitivity coefficient of each substrate for each protein from the calculated relationships~~.

4. (Original) The assay of claim 3, wherein the plurality of inhibited dilutions is obtained by

obtaining a plurality of dilutions of at least one inhibitor which selectively inhibits a protein belonging to the plurality of proteins;

obtaining a plurality of dilutions of the sensitivity coefficient sample; and

adding each dilution of the inhibitor to each dilution of the sensitivity coefficient sample.

5. (Original) The assay of claim 1, wherein the concentration or activity of more than one protein in a test sample is detected, measured or monitored.

6. (Original) The assay of claim 1, wherein the plurality of proteins comprise acetylcholinesterase and butyrylcholinesterase.

7. (Original) The assay of claim 1, wherein the plurality of substrates is selected from the group consisting of acetylcholine, acetylthiocholine, butyrylcholine, butyrylthiocholine, propionylcholine, and propionylthiocholine.

8. (Original) The assay of claim 1, wherein the plurality of substrates comprise acetylthiocholine, butyrylthiolcholine, and propionylthiocholine.

9. (Original) The assay of claim 4, wherein the inhibitor is huperzine-A, tetraisopropyl pyrophosphoramide, or a combination thereof.

38. (Previously presented) The assay of claim 1, wherein the test sample is a synthetic sample or a natural sample.

39. (Previously presented) The assay of claim 1, wherein the natural sample is a tissue, fluid, or a membrane.

40. (Previously presented) The assay of claim 1, wherein the sample is blood, serum, lymph, cerebrospinal fluid, breast milk, interstitial or urine.

41. (Previously presented) The assay of claim 1, wherein the sample is diaphragm, bone marrow, brain, liver, muscle, adrenal and kidney.

42. (Previously presented) The assay of claim 3, wherein measuring the reaction rates comprises utilizing a chromogenic substrate and measuring the absorbance of the reactions.

43. (Previously presented) The assay of claim 6, wherein the test sample further comprises an agent which affects the concentration or activity of acetylcholinesterase, butyrylcholinesterase, or both.

44. (Previously presented) The assay of claim 43, wherein the agent is removed from the test sample prior to measuring the reaction rates.

45-52. (Canceled).